

Remarks

Claims 1, 2, 4-6, 9-12, 14, and 16-20 are pending in this application. The Examiner has previously rejected claims 1-4 under 35 U.S.C. § 112 as being indefinite. The Examiner has rejected claims 5-20 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,567,892 to Horst et al. (hereinafter “Horst”). Additionally, the Examiner has rejected claims 1-4 under 35 U.S.C. § 103(a) as being obvious over Horst in view of U.S. Publication No. 2001/0032300 to Olson (hereinafter “Olson”).

A. Independent Claim 5

Horst does not disclose all of the limitations of independent claim 5. Independent claim 5, as amended, requires, in part, “wherein **each** drive controller comprises a first memory, wherein the first memory is operable to store a history of write commands transmitted from **each** drive controller to its **associated** drive,” and “wherein **each** drive controller comprises a second memory for recording the number of commands stored in the first memory, and wherein **each** drive controller is operable to cause its **associated** drive to flush the data in the write cache when the number of commands stored in the first memory reaches a predetermined threshold.” (emphasis added)

Horst does not disclose wherein **each** drive controller comprises a first memory operable to store a history of write commands transmitted to that drive controller’s associated drive. The Examiner points to the NOVRAM in Figure 1 of Horst (element 180) as disclosing this claim element. (Office Action, p.7) However, the NOVRAM is a **single** memory for the entire array of multiple drive controllers of Horst. This does **not** teach that **each drive controller** has its **own** first memory to store a history of write commands transmitted to that drive controller’s **associated** drive. Having separate drive controllers with separate memories

allows for increased fault tolerance as compared to having a single memory for the entire array of drive controllers because if the memory of that array fails, all information about commands transmitted to the drives is lost. However, in the case of separate memories, if one memory fails, information about commands transmitted to the other drives is still available. Horst fails to teach this limitation and does not provide this advantage of the present invention.

Similarly, Horst does not teach or disclose each drive controller having a second memory for recording the number of commands stored in the first memory. The Examiner points to column 8, line 6 of Horst (discussing a read counter) as disclosing this limitation. However, nowhere in Horst is it taught or disclosed that **each drive controller** has a second memory for recording the number of commands stored in that drive controller's first memory. Horst does not teach or disclose that the single read counter is located in a drive controller, and additionally, Horst fails to teach a command counter associated with **each** drive and located in a drive controller.

Because Horst does not disclose each and every element of independent claim 5, a rejection of this claim on anticipation grounds is improper. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir 1987). "The identical invention must be shown in complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1336 (Fed. Cir 1989).

B. Independent Claim 10

Independent claim 10 requires, in part, "writing the one or more commands to a journal located in the drive controller" and "providing a count of commands sent to the drive,

wherein the count is located in the drive controller.” For the same reasons as stated above regarding independent claim 5, Horst does not teach or disclose writing one or more commands to a journal located in a drive controller, and additionally, does not teach or disclose a count of commands located in the drive controller. Because Horst does not disclose each and every element of independent claim 10, a rejection of this claim on anticipation grounds is improper.

C. Independent Claim 18

Independent claim 18, requires, in part, “a first memory for recording commands transmitted from the drive controller to the drive during the period that the drive is being rebuilt,” and “a second memory for storing a count of the commands recorded in the first memory.” For the same reasons as stated above regarding independent claims 1 and 10, Horst does not teach or disclose recording commands to a first memory located in a drive controller, and additionally, does not teach or disclose a count of commands located in a second memory in the drive controller. Because Horst does not disclose each and every element of independent claim 18, a rejection of this claim on anticipation grounds is improper.

D. Independent Claim 1

The Examiner rejected independent claim 1 as being obvious over Horst in view of Olson. Independent claim 1 requires, in part, “recording in the second non-volatile memory of the drive controller each rebuild command directed to the drive,” “maintaining a count of the number of commands stored in the second non-volatile memory of the drive controller,” and causing the drive to flush its cache when the count of the number of commands stored in the second non-volatile memory of the drive controller reaches a predetermined threshold.”

As stated above with respect to independent claims 5, 10, and 18, Horst fails to teach or disclose recording rebuild commands directed to a drive in the memory of the associated

drive controller. Additionally, Horst fails to teach or disclose maintaining a count of the commands at the drive controller. Olson fails to remedy these deficiencies. Olson does not discuss drive controllers at all, and thus cannot teach or suggest recording rebuild commands directed to a drive in the memory of the associated drive controller or maintaining a count of the commands at the drive controller.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In *re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In *re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In *re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Because the combination of Horst and Olson fails to teach or suggest each and every claim limitation of claim 18, a *prima facie* case of obviousness has not been established. As such, Applicants request that the rejection of this claim be withdrawn and that the claim be passed to issuance.

E. Dependent Claims

Because claims 2, 4, 6, 9, 11, 12, 14, 16, 17, 19, and 20 depend from claims 1, 5, 10, and 18, the rejection of these claims should be withdrawn, and the claims should be passed to issuance.

Conclusion

Applicants respectfully submit that pending claims 1, 2, 4-6, 9-12, 14, and 16-20 of the present invention are allowable. Applicants respectfully request that these claims be passed to issuance.

Respectfully submitted,



Roger Fulghum
Registration No. 39,678

Baker Botts L.L.P.
910 Louisiana St.
One Shell Plaza
Houston, Texas 77002-4995
(713) 229-1707

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